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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,828	10/07/2004	Hans-Juergen Renk	LUKP122US	5827
24041 7590 07/24/2007 SIMPSON & SIMPSON, PLLC 5555 MAIN STREET WILLIAMSVILLE, NY 14221-5406			EXAMINER LEYKIN, RITA	
			ART UNIT	PAPER NUMBER
			2837	
			MAIL DATE	DELIVERY MODE
			07/24/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/711,828	RENK ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Rita Leykin	2837	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06/01/2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1 and 3-10 is/are allowed.
- 6) ☒ Claim(s) 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Response to Amendment***

This office action is in response to amendment filed on 6/01/07.

With respect to provided amendment and arguments additional search has been provided, based on which examiner maintains rejection as follows.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States:

2. Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipated by Fortune et al. US # 5,315,218 and Nelson US# 6,307,337.

With respect to claims 1, 11 and 6 claimed limitations are presented in Fortune et al. teaching with reference to Fig. 2, wherein electrically actuated shifting mechanism including beside the others a reversible electric motors 34 and 36. Wherein the direction of operation of the motors is determined by which two switches are closed to operate the motor. When in gear motor 36 is to be operated in a forward direction, the switches 76, and 82 are closed to conduct the electrical energy for energizing the in-gear motor. And for operation of the motor in the reverse direction switches 78 and 80 are closed to conduct the electrical energy for energizing the motor, (see col. 4, lines 23-68). For

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regulation of speed of the motor Fortune et al. used PWM. Wherein the detection of current flow signal is inherent to Fortune et al. teaching.

Fortune et al. do not teach Hall sensor for validation of directional movement. However, Nelson teaches in Fig. 8-9 a brushless motor with the teeth that form magnetic poles on the stator, which provides starting orientation of the permanent magnet rotor assembly relative to the Hall effect devices and cause a magnetic attraction during motor operation.

In Fig. 8, (see col. 8, lines 31-67, col. 9, lines 1-59, col. 10, lines 34-67) Nelson shows a power input to H-bridge 213 for bi-directional current flow to motor winding 214 including a first pair of solid state drive elements 206, 212 that are in conducting or non-conducting state to establish  $I_a$  current in one direction and a second pair of solid state drive elements 208, 210 that are in conducting state to establish current  $I_b$  in opposite direction. The conducting state of solid state elements is controlled via AND gates 218, 220, a pair of Hall effect sensors 102, 104 for rotor position detection, motor current feedback 216, current limit unit 222, under voltage unit 224 and user enable unit 8. With reference to Fig. 9b Nelson teaches that motor winding conductive state is controlled via conducting/non-conducting state of pairs transistor switches M1, M4 and M2, M3 according to AND gate level signal and Hall sensor level signal. Wherein, directional current  $I_a$  is established when the output of AND gate Q9 is high and the inverted output of Hall device Q1 is high. In this case both M2 and M3 are in non-conductive state, (see col. 11, lines 18-26).

Hence, it has been obvious to one of ordinary skills in the art, at the time invention was made to

To use Nelson teaching on use of Hall effect device signals in combination with Fortune et al. shifting device motor control to control directional rotation of motor based on detected motor current.

The reason is to prevent motor operation from overload by providing rotational position control of brushless motor according to user demand and prevent motor from rotation when sensed current is above a predetermined level.

***Allowable Subject Matter***

3. Claims 1, 3-10 allowed.

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

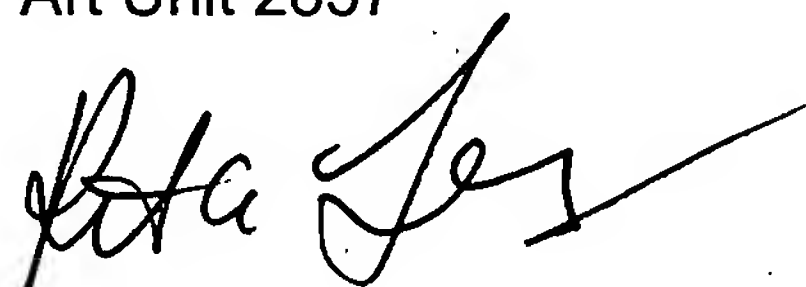
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rita Leykin whose telephone number is (571)272-2066. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Bradley can be reached on (571)272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rita Leykin  
Primary Examiner  
Art Unit 2837



R.L.